Amendments to the Claims:

1. (original) A reference voltage generator having N^{th} order temperature compensation comprising:

a plurality of signal generators for producing a plurality of signals respectively corresponding to a plurality of temperature dependent characteristics;

a combining module coupled to the signal generators for combining the plurality of signals to form a combined signal; and

a signal to voltage converter coupled to the combining module for generating a compensated reference voltage according to the combined signal.

2. (original) The reference voltage generator of claim 1, wherein the plurality of signals are N+1 temperature dependent signals.

3. (currently amended) The reference voltage generator of claim 2 ~~claim 1~~, wherein N is 1.

4. (currently amended) The reference voltage generator of claim 2 ~~claim 1~~, wherein N is at least 2.

5. (original) The reference voltage generator of claim 1, wherein the combining module combines the plurality of signals to form the combined signal by arithmetically combining a plurality of currents according to the plurality of signals.

6. (original) The reference voltage generator of claim 1, wherein the signal generators

include a plurality of devices having p-n junctions, and each device has a specific temperature dependent characteristic corresponding to the voltage across a p-n junction.

7. (original) The reference voltage generator of claim 6, wherein the devices are transistors and the temperature dependent characteristic is the base-emitter voltage.

8. (original) The reference voltage generator of claim 1, wherein each signal generator comprises:

a first current source for providing a first current according to a control signal;

a second current source for providing a second current according to the control signal, the second current being substantially equal to the first current;

a resistor having a first node coupled to the first current source, the resistor for coupling the first current to a reference node;

a transistor having an emitter coupled to the second current source, and a base and a collector coupled to a supply node; and

a control signal generator for generating the control signal to control the voltage at the first node of the resistor to be substantially equal to the voltage at the emitter of the transistor;

wherein the signal output by the signal generator is the control signal.

9. (original) The reference voltage generator of claim 8, wherein the control signal

generator is an operational amplifier (op-amp) having an inverting input terminal coupled to the first node of the resistor, and a non-inverting input terminal coupled to the emitter of the transistor, the output of the op-amp being the control signal.

10. (original) The reference voltage generator of claim 8, wherein the combining module comprises a plurality of third current mirrors generating a plurality of third currents according to the plurality signals outputted by the signal generators, the third currents being electrically added or subtracted to form the combined signal; and

the signal to voltage converter comprises an output resistor coupling the combined signal to the supply node, the compensated reference voltage being the voltage across the output resistor.

11. (original) A method for generating a reference voltage having N^{th} order temperature compensation comprising:

producing a plurality of signals respectively corresponding to a plurality of temperature dependent characteristics;

combining the plurality of signals to form a combined signal; and

generating a compensated reference voltage according to the combined signal.

12. (original) The method of claim 11, wherein the plurality of signals are N+1 temperature dependent signals.

13. (currently amended) The method of claim 12 ~~claim 11~~, wherein N is 1.

14. (currently amended) The method of claim 12 ~~claim 11~~, wherein N is at least 2.

15. (original) The method of claim 11, wherein the combining step further comprising combining the plurality of signals to form the combined signal by arithmetically combining a plurality of currents according to the plurality of signals.

16. (original) The method of claim 11, further comprising providing a plurality of devices having p-n junctions, wherein each temperature dependent characteristic is the voltage across a p-n junction.

17. (original) The method of claim 16, wherein the devices are transistors and the temperature dependent characteristic is the base-emitter voltage.

18. (original) The method of claim 11, wherein the step of producing the plurality of signals further comprises providing a plurality of signal generators, each signal generator comprising:

a first current source for providing a first current according to a control signal;

a second current source for providing a second current according to the control signal, the second current being substantially equal to the first current;

a resistor having a first node coupled to the first current source, the resistor for coupling the first current to a reference node; and

a transistor having an emitter coupled to the second current source, and a base and a collector coupled to a supply node; and

the method further comprising, for each signal generator, generating the control signal such that the voltage at the first node of the resistor is substantially equal to the voltage at the emitter of the transistor;

wherein the N+1 signals are the control signals corresponding to each signal generator.

19. (original) The method of claim 18, wherein for each signal generator, generating the control signal comprises providing an operational amplifier (op-amp) having an inverting input terminal coupled to the first node of the resistor, and a non-inverting input terminal coupled to the emitter of the transistor, the output of the op-amp being the control signal.

20. (original) The method of claim 18, wherein combining the plurality of signals comprises providing a plurality of third current mirrors generating a plurality of third currents according to the plurality of signals, and electrically adding or subtracting the third currents to form the combined signal; and

generating the compensated reference voltage comprises providing an output resistor coupling the combined signal to the supply node, the compensated reference voltage being the voltage across the output resistor.

21. (new) A reference voltage generator having Nth order temperature compensation, where N is an integer equal to or larger than 2, the reference voltage generator comprising:

N+1 signal generators for producing a plurality of signals, wherein each of said produced signals possesses a temperature dependent characteristic;

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a combining module coupled to the N+1 signal generators for combining the plurality of signals to form a combined signal; and

a signal to voltage converter coupled to the combining module for generating an Nth order temperature compensated reference voltage according to the combined signal.

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